

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

Claims 1-113. (Cancelled)

114. (new) A process for screening glycoform specific antibodies capable of binding to at least one given glycoform of a second glycoprotein among antibodies elicited against a first glycoprotein

said first glycoprotein being pituitary or blood human TSH,

said second glycoprotein being a recombinant human TSH produced by mammalian cells and said second glycoprotein being itself a glycoform of the first glycoprotein,

said process comprising a step of determination of the binding between :

- a) antibodies elicited against the first glycoprotein, and
- b) at least one glycoform of a second glycoprotein,

wherein said at least one glycoform of the second glycoprotein is selected from a group of glycoforms of the second glycoprotein, each glycoform of said group corresponding to a determined glycosylation state which is either:

a) essentially more sialylated, more branched and less fucosylated than said second glycoprotein, or

b) essentially more sialylated, less branched and less fucosylated than said second glycoprotein,

wherein antibodies elicited against the first glycoprotein which bind to the second glycoprotein with an affinity higher than the binding affinity of said antibodies to the first glycoprotein are screened.

115. (new) The process according to claim 114, wherein a glycoform of the second glycoprotein being:

a) essentially more sialylated, more branched and less fucosylated than said second glycoprotein, or

b) essentially more sialylated, less branched and less fucosylated than said second glycoprotein,

is obtained by a combination

of at least one enzymatic modification of the second glycoprotein, and/or

of at least one lectin fractionation of the second glycoprotein.

116. (new) The process according to claim 115, wherein the lectin is selected from the group consisting of a mannose-specific lectin, a fucose-specific lectin, a galactose-specific lectin, and a sialic acid-specific lectin.

117. (new) The process according to claim 115, wherein the enzymatic modification is carried out by an enzyme selected from the group consisting of

a glycosidase, and

a glycosyltransferase.

118. (new) The process according to claim 117, wherein

the glycosidase is a neuraminidase or a fucosidase, and wherein

the glycosyltransferase is a sialyltransferase.

119. (new) The process according to claim 115, wherein a less fucosylated glycoform of the second glycoprotein as compared to the second glycoprotein is obtained by lentil fractionation of the second glycoprotein by collecting a fraction which does not bind to lentil .

120. (new) The process according to claim 115, wherein a ConA fractionation of the second glycoprotein is performed by collecting three fractions, A, B, and C, the binding of which to ConA is such that,

fraction C binds to ConA more strongly than fraction B binds to ConA, and

fraction B binds to ConA more strongly than A binds to ConA,

the branching state of a given fraction being essentially different from the branching state of the other two fractions.

121. (new) The process according to claim 114, wherein a more sialylated glycoform of the second glycoprotein as compared to the second glycoprotein is obtained by sialyltransferase treatment of said second glycoprotein or by neuraminidase treatment followed by sialyltransferase treatment of said second glycoprotein.

122. (new) The process according to claim 115 or 121, wherein the sialyltransferase is a α -2,6-sialyltransferase having an increased solubility and a superior activity.

123. (new) The process according to claim 122, wherein said α -2,6-sialyltransferase is a N-terminally shortened ST6GalI sialyltransferase deleted of at most its first 99 residues as set forth in SEQ ID NO: 1.

124. (new) The process according to claim 115, wherein, in a step preceding the step of determination of the binding between antibodies elicited against the first glycoprotein, and at least one glycoform of a second glycoprotein, the antibodies to be screened are classified in pools, each pool being characterized in that two antibodies selected from a same pool can not bind to the same glycoprotein at the same time.

125. (new) The process according to claim 124, wherein, in a first step said preceding the preliminary step, antibodies elicited against the first glycoprotein are confirmed to bind to the second glycoprotein.

126. (new) The process according to claim 114, wherein antibody binding is determined by immunoassay.

127. (new) The process according to claim 126, wherein the immunoassays comprise an amplification system for detection.

128. (new) The process according to claim 126 or 127, wherein the immunoassay is a sandwich immunoassay, comprising the following steps:

fixing a capture antibody selected from a pool obtained in a preliminary step, said preliminary step being such that the antibodies to be screened are classified in pools, each pool being characterized in that two antibodies selected from a same pool can not bind to the same glycoprotein at the same time, onto a support,

contacting a glycoprotein, corresponding to the first glycoprotein, to the second glycoprotein or to the glycoforms of the second glycoprotein, to said capture antibody, to form a capture antibody-glycoprotein binary complex,

contacting a tracer antibody, selected from a pool obtained in a preliminary step, said preliminary step being such that the antibodies to be screened are classified in pools, each pool being characterized in that two antibodies selected from a same pool can not bind to the same glycoprotein at the same time, provided said pool is different from the one used for the selection of said capture antibody, to said capture antibody-glycoprotein binary complex, to form a capture antibody-glycoprotein-tracer antibody ternary complex,

detecting the tracer antibody for measuring the number of ternary complexes.

129. (new) The process according to claim 116, wherein the lectin is selected from the group consisting of a ConA lectin, a Lentil lectin, an Ulex lectin, a ricin, a limulin lectin and a Sambucus nigra lectin.

130. (new) The process according to claim 127, wherein the immunoassays are an ELISA format.